

In the Claims:

Please amend claims 1 and 17 as follows:

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1. (Currently Amended) A magnetoresistive transducer comprising:
a magnetoresistive film extending over a surface of a fundamental layer;
a pair of domain control layers extending over the surface of the fundamental layer so as to interpose the magnetoresistive film along the fundamental layer; and
an upper shield layer opposed to the magnetoresistive film at a first interface extending along over a datum plane, said upper shield layer opposed to the domain control layers at a second interface extending along over the datum plane.

2. (Original) The magnetoresistive transducer according to claim 1, wherein said fundamental layer is a lower non-magnetic gap layer spreading over a surface of a lower shield layer.

3. (Original) The magnetoresistive transducer according to claim 2, further comprising an upper non-magnetic gap layer interposed between the magnetoresistive film and the upper shield layer, said upper shield layer contacting the upper non-magnetic gap layer at the first interface.

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4. (Original) The magnetoresistive transducer according to claim 3, wherein a lead layer made of an Au thin film is interposed between the domain control layer and the upper shield layer.

5. (Original) The magnetoresistive transducer according to claim 4, wherein said upper non-magnetic gap layer extends over the lead layer, said upper shield layer contacting the upper non-magnetic gap layer at the second interface.

dm 17 ≈ 6. (Original) The magnetoresistive transducer according to claim 1, wherein a groove is formed on the upper shield layer so as to isolate the first and second interfaces from each other.
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7. (Original) The magnetoresistive transducer according to claim 6, wherein said fundamental layer is a lower non-magnetic gap layer spreading over a surface of a lower shield layer.

8. (Original) The magnetoresistive transducer according to claim 7, further comprising an upper non-magnetic gap layer interposed between the magnetoresistive film and the upper shield layer, said upper shield layer contacting the upper non-magnetic gap layer at the first interface.

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9. (Original) The magnetoresistive transducer according to claim 8, wherein a lead layer made of an Au thin film is interposed between the domain control layer and the upper shield layer.

10. (Original) The magnetoresistive transducer according to claim 9, wherein said upper non-magnetic gap layer extends over the lead layer, said upper shield layer contacting the upper non-magnetic gap layer at the second interface.

Fig 9

11. (Original) A magnetoresistive transducer comprising:
a magnetoresistive film extending over a surface of a fundamental layer;
a pair of domain control layers extending over the surface of the fundamental layer so as to interpose the magnetoresistive film along the fundamental layer;
an upper shield layer opposed to the fundamental layer at a lower interface so as to hold at least the magnetoresistive film against the fundamental layer; and
a raised portion formed on the upper shield layer so as to swell from the lower interface toward the fundamental layer, wherein
a product between a height of the raised portion and a magnetization intensity of the upper shield layer is set smaller than a product between a thickness and a magnetization intensity of the domain control layer.

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12. (Original) The magnetoresistive transducer according to claim 11, wherein said fundamental layer is a lower non-magnetic gap layer spreading over a surface of a lower shield layer.

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13. (Original) The magnetoresistive transducer according to claim 12, further comprising an upper non-magnetic gap layer interposed between at least the magnetoresistive film and the upper shield layer.

14. (Original) The magnetoresistive transducer according to claim 13, wherein a lead layer made of an Au thin film is interposed between the domain control layer and the upper shield layer.

15. (Original) The magnetoresistive transducer according to claim 14, wherein said upper non-magnetic gap layer extends over the lead layer and interposed between the upper shield layer and the lead layer.

Fig 11

16. (Original) A magnetoresistive transducer comprising:
a magnetoresistive film;
a pair of domain control layers interposing the magnetoresistive film, said domain control layers magnetized in a normal longitudinal direction across the

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magnetoresistive film; and

an upper shield layer covering over at least the magnetoresistive film, said upper shield layer magnetized in a reverse longitudinal direction opposite to the normal longitudinal direction.

Fig 5

17. (Currently Amended) A magnetoresistive transducer comprising:

a magnetoresistive film extending over a surface of a fundamental layer;

a pair of domain control layers extending over the surface of the fundamental layer so as to interpose the magnetoresistive film along the fundamental layer;

an upper shield layer opposed to the magnetoresistive film at a first interface, said upper shield layer opposed to the domain control layers at second interfaces; and

at least one groove formed between the first interface and the second interface on said upper shield layer so as to isolate the first and second interfaces from each other.